Unit 4: Reproductive Endocrinology, Infertility & Related Topics

Educational Topic 48: Infertility

Rationale: The evaluation and management of an infertile couple requires an understanding of the processes of conception and embryogenesis, as well as sensitivity to the emotional stress that can result from the inability to conceive.

Intended Learning Outcomes:

A student should be able to:

- Define infertility
- List the causes of male and female infertility
- Describe the evaluation and initial management of an infertile couple
- Describe the psychosocial issues associated with infertility
- Describe management options for infertility
- Describe ethical issues confronted by patients with infertility
- Identify the impact of genetic screening and testing on infertility associated treatments.

TEACHING CASE

CASE: A 37-year-old woman and her 37-year-old male partner present with the complaint of a possible fertility problem. The couple has been married for 2 years. The patient has a 4-year-old daughter from a previous relationship. The patient used birth control pills until one-and-a- half years ago. The couple has been trying to conceive since then and report a high degree of stress related to their lack of success. The patient reports good health and no problems in conceiving her previous pregnancy or in the vaginal delivery of her daughter who has cystic fibrosis. She reports that her periods were regular on the birth control pill, but have been irregular since she discontinued taking them. She reports having periods every 5-7 weeks. She works as a cashier, runs 12-24 miles each week for the last 2 years, and has no history of STIs, abnormal Paps, smoking, alcohol or other drugs. She has had no surgery. She has been taking a multivitamin with folic acid since trying to conceive.

The patient's partner also reports good health and reports no problems with erection, ejaculation or pain with intercourse. He has had no prior urogenital infections or exposure to sexually transmitted infections. He has had unprotected sex prior to his current relationship, but has not knowingly conceived. He has no medical problems or past surgery. The couple has vaginal intercourse 3-5 times per week when he is at home.

The female patient is 5'9" and weighs 130 pounds. Head and neck examination is unremarkable. Specifically there is no evidence of thyromegaly. Breast exam reveals no tenderness or masses, but she has bilateral galactorrhea on compression of the areola. Pelvic exam reveals normal genitalia, well-estrogenized vaginal mucosa and cervical mucus consistent with the proliferative phase. The uterus is anteflexed and normal in size without masses or tenderness. Several tests were ordered.

COMPETENCY-BASED DISCUSSION & KEY TEACHING POINTS:

Competencies addressed:

- Patient Care
- Medical Knowledge
- Interpersonal and Communication Skills
- Professionalism

1. What is the definition of infertility?

2. What are the etiologies of infertility?

3. What is the initial work-up for infertile couples and what tests would you add for this particular couple?

4. Offer genetic counseling and testing for cystic fibrosis mutations. Given the results of the tests, what is the differential diagnosis for the etiology(ies) of this couple's infertility?

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5. What is the appropriate management for etiology of this couple's infertility?

6. The husband elects to undergo testing for common cystic fibrosis mutations and is determined to be a carrier. What options are available to them to achieve a pregnancy that is less likely to lead to a child affected by cystic fibrosis? Discuss the ethical issues associated with these choices.

REFERENCES

Beckman CRB, et al. Obstetrics and Gynecology. 7th ed. Philadelphia: Lippincott, Williams & Wilkins, 2013.

Hacker NF, Moore JG, et al. Essentials of Obstetrics and Gynecology. 5th ed. Philadelphia: Saunders, 2010.

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